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956 GLOSSARY

- Cloning vector is a plasmid or phage that is used to "carry" inserted foreign DNA for the purposes of producing more material or a protein product.
- Closed reading frame contains termination codons that prevent its translation into protein.
- Coated vesicles are vesicles whose membrane has on its surface a layer of a protein such as clathrin, COP-I, or COP-II.
- Coconversion is the simultaneous correction of two sites during gene conversion.
- Coding strand of DNA has the same sequence as mRNA.
- Codominant alleles both contribute to the phenotype; neither is dominant over the other.
- Codon is a triplet of nucleotides that represents an amino acid or a termination signal.
- Coevolution—see concerted evolution.
- Cognate tRNAs are those recognized by a particular aminoacyl-tRNA synthetase.
- Coincidental evolution—see concerted evolution.
- Cointegrate structure is produced by fusion of two replicons, one originally possessing a transposon, the other lacking it; the cointegrate has copies of the transposon present at both junctions of the replicons, oriented as direct repeats.
- Cold-sensitive mutant is defective at low temperature but functional at normal temperature.
- Colony hybridization is a technique for using *in situ* hybridization to identify bacteria carrying chimeric vectors whose inserted DNA is homologous with some particular sequence.
- Compatibility group of plasmids contains members unable to coexist in the same bacterial cell.
- Complementation refers to the ability of independent (nonallelic) genes to provide diffusible products that produce wild phenotype when two mutants are tested in *trans* configuration in a heterozygote.
- Complementation assay—see *in vitro* complementation assay.
- Complementation group is a series of mutations unable to complement when tested in pairwise combinations in *trans*; defines a genetic unit (the cistron).
- Complex locus (of *D. melanogaster*) has genetic properties inconsistent with the function of a gene representing a single protein. Complex loci are usually very large (>100 kb) at the molecular level.
- Complexity is the total length of different sequences of DNA present in a given preparation.
- Composite transposons have a central region flanked on each side by insertion sequences, either or both of which may enable the entire element to transpose.
- Concatemer of DNA consists of a series of unit genomes repeated in tandem.
- (Con)catenated circles of DNA are interlocked like rings on a chain.
- Concerted evolution describes the ability of two related genes to evolve together as though constituting a single locus.
- Condensation reaction is one in which a covalent bond is formed with loss of a water molecule, as in the addition of an amino acid to a polypeptide chain.
- Conditional lethal mutations kill a cell or virus under certain (nonpermissive) conditions, but allow it to survive under other (permissive) conditions.
- Conjugation describes "mating" between two bacterial cells, when (part of) the chromosome is transferred from one to the other.
- Consensus sequence is an idealized sequence in which each position represents the base most often found when many actual sequences are compared.
- Conservative recombination involves breakage and reunion of pre-existing strands of DNA without any synthesis of new stretches of DNA.
- Conservative transposition refers to the movement of large elements, originally classified as transposons, but now considered to be episomes. The mechanism of movement resembles that of phage lambda.
- Constant regions of immunoglobulins are coded by C genes and are the parts of the chain that vary least. Those of heavy chains identify the type of immunoglobulin.
- Constitutive genes are expressed as a function of the interaction of RNA polymerase with the promoter, without additional regulation; sometimes also called housekeeping genes in the context of describing functions expressed in all cells at a low level.
- Constitutive heterochromatin describes the inert state of permanently nonexpressed sequences, usually satellite DNA.
- Constitutive mutations cause genes that usually are regulated to be expressed without regulation.
- Contractile ring is a ring of actin filaments that forms around the equator at the end of mitosis and is responsible for pinching the daughter cells apart.
- Controlling elements of maize are transposable units originally identified solely by their genetic properties. They may be autonomous (able to transpose independently) or nonautonomous (able to transpose only in the presence of an autonomous element).
- Coordinate regulation refers to the common control of a group of genes.
- Cordycepin is 3' deoxyadenosine, an inhibitor of polyadenylation of RNA.
- Core DNA is the 146 bp of DNA contained on a core particle.